

AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1-25. (Cancelled)

26. (New) A system for use in surgery on vertebrae of the spine of a subject, said system comprising:

a bridge attached at least at one end to a first vertebra in said spine of the subject;

and

a surgical robot mounted on said bridge, said robot being adapted to enable the performance of a surgical procedure on at least said first vertebra,

wherein said bridge is free to move in space as one unit with movement of the spine of the subject, such that movement of the spine does not affect the position of said robot relative to said at least one vertebra.

27 (New) A system according to claim 26, and wherein said bridge comprises a number of predetermined locations adapted for positioning said robot, enabling surgery to be performed on a plurality of vertebrae in a single procedure.

28. (New) A system according to claim 27 and wherein said robot can perform said surgery on a plurality of said vertebrae with a single registration process.

29. (New) A system according to claim 26, and wherein said bridge comprises a moveable slide adapted for mounting said robot thereupon, such that adjustment of the position of said

slide on said bridge enables surgery to be performed on a plurality of vertebrae in a single procedure.

30. (New) A system according to claim 29 and wherein said robot can perform said surgery on a plurality of said vertebrae with a single registration process.

31. (New) A system according to claim 26, and wherein said bridge is also attached to any of a second vertebra of the subject's spine, the subject's skull and the subject's pelvic bone.

32. (New) A system according to claim 26 and wherein said bridge is attached to said first vertebra in said spine of the subject by means of either of a bone clamp and at least one K-wire.

33. (New) A system according to claim 26 further comprising a navigational position probe associated with a computer assisted surgery system, such that the position of said bridge and of said at least one vertebra are known to said system.

34. (New) A system for use in surgery on the vertebrae of the spine of a subject, said system comprising:

a bridge assembly comprising:

at least a first spinal bridge section attached at least at one end to a first vertebra in said spine of the subject;

at least a second spinal bridge section having two ends, one of said ends being attached to said at least a first spinal bridge section, and a second of said ends being attached to either of the pelvic bone structure of the subject and the skull of the subject; and

a surgical robot mounted on said bridge assembly, said robot being adapted to enable the performance of surgical procedures on a plurality of vertebrae,

wherein said bridge assembly is free to move in space with movement of the spine of the subject, such that movement of the spine does not affect the position of said robot relative to said plurality of vertebrae.

35. (New) A system according to claim 34, and wherein said at least a second spinal bridge section comprises two spinal bridge sections, one attached at its second end to the pelvic bone structure of the subject and the other attached at its second end to the skull of the subject, such that said bridge assembly is positioned proximate vertebrae along the entire length of said spine.

36. (New) A system according to claim 35, and wherein said system comprises a lumbar, a cervical and at least one thoracic bridge sections.

37. (New) A system according to claim 34, and wherein at least one of said bridge sections of said bridge assembly comprises a number of predetermined locations adapted for positioning said robot, enabling surgery to be performed on a plurality of vertebrae in a single procedure.

38. (New) A system according to claim 37 and wherein said robot can perform said surgery on a plurality of said vertebrae with a single registration process.

39. (New) A system according to claim 34, and wherein at least one of said bridge sections of said bridge assembly comprises a moveable slide adapted for mounting said robot thereupon, such that adjustment of the position of said slide on said at least one bridge section enables surgery to be performed on a plurality of vertebrae in a single procedure.

40. (New) A system according to claim 39 and wherein said robot can perform said surgery on a plurality of said vertebrae with a single registration process.

41. (New) A system according to claim 34 further comprising a navigational position probe associated with a computer assisted surgery system, such that the position of any part of said bridge assembly and of said vertebrae are known to said system.

42. (New) A method of performing surgery on the vertebrae of the spine of a subject, said method comprising:

providing a spinal bridge,

attaching said spinal bridge at at least one end to a first vertebrae in the spine of the subject, said spinal bridge being free to move in space as one unit with movement of the spine of the subject;

mounting a surgical robot on said bridge; and

performing a surgical procedure on at least said first vertebra,

said method being such that movement of the spine does not affect the position of said robot enabling the performance of said surgical procedure, relative to said at least one vertebra.

43. (New) A method according to claim 42, further comprising the steps of accommodating said surgical robot at a number of predetermined locations adapted for positioning said robot on said bridge, and performing said surgery with said robot on a plurality of said vertebrae in a single procedure.

44. (New) A method according to claim 43 and wherein said robot can perform said surgical procedures on a plurality of said vertebrae with a single registration process.

45. (New) A method according to claim 42, further comprising the steps of mounting said robot on a moveable slide on said bridge, such that adjustment of the position of said slide on said bridge enables surgery to be performed on a plurality of vertebrae in a single procedure.

46. (New) A method according to claim 45 and wherein said robot can perform said surgical procedures on a plurality of said vertebrae with a single registration process.